Procyonidæ of the New World. The *Æluropus* is a large bear-like animal clad in snow-white fur. It inhabits the highest forests, and is called by the Chinese hunters "*Pae-shioung*" or "white bear." Its food is said to be of a vegetable character.

Proceeding to the Ungulates, we find other very remarkable discoveries recorded. The singular form *Budorcas*, hitherto only known from the Mishmee Hills of Assam, a large antilopine-looking creature with a pair of in-curved horns, is also met with in Moupin. Three new *Nemorhedi*, or goat-like antelopes, are also in the list. But perhaps the most interesting of all Père David's discoveries in this order of mammals is a new form belonging to the family *Cervidæ*, which M. Milne-Edwards has termed *Elaphodus cephalophus*. It is intermediate between the muntjacks and the true deer, having the highly developed upper canines of the former, but possessing a minute pair of horns about an inch in length, covered by a long tuft of frontal hairs as in the antelopes of the genus *Cephalophus*.

Altogether, out of the 110 species of mammals obtained by Père David in Moupin, no less than forty turned out to be new to Science, amongst which, as will be seen from what we have said above, were many of the most remarkable characters. There can be little question therefore, we think, that Moupin presents one of the most extraordinary faunas as regards its mammals that has become known to us for many years. It must be conceded that the land is difficult of access, and that perhaps no living European, except Père David, clad in Chinese garments, and speaking the ordinary vernacular of the country, could have found his way there. It has been lately stated in a scientific periodical that zoology is at a discount in France, and that their recent contributions to this science have been of the most meagre description. The splendid discoveries of Père David, and the works of Alphonse Milne-Edwards in which they are described, are of themselves sufficient to refute such a baseless charge.

THE TRANSIT EXPEDITIONS TO RODRIGUEZ AND KERGUELEN'S LAND

SOME four years ago (NATURE, vol. i. p. 527), we directed attention to the desirable opportunity, presented by the Transit expeditions to several little-known spots in the Pacific, of sending out qualified Natural-History observers to the same islands, in order to obtain a knowledge of their flora and fauna. The astronomical stations selected as being especially worthy of this kind of research were the Sandwich Islands, Kerguelen's Land, and the Island of Rodriguez. This subject having been brought before the Council of the Royal Society last year, and thus to the notice of the Treasury, we are glad to be able to announce that, after certain little difficulties on account of the change of Government, the present ministry were induced to grant a sum of money sufficient to send out naturalists to two of these stations, and that arrangements are now being made for their speedy departure along with their astronomical brethren.

Three naturalists will proceed to Rodriguez, the most remote and least known of the Mascarene group of islands. Dr. T. B. Balfour, son of the well-known Professor of Botany of the University of Edinburgh, will devote himself to an examination of the general geological structure of this island, which presents features of the greatest interest, inasmuch as it forms one of the few exceptions to the general rule that all oceanic islands of the deep sea are of volcanic origin. Dr. Balfour will also collect the plants of Rodriguez so as to increase our acquaintance with the flora of the island, which has hitherto, we believe, been scarcely touched.

Mr. George Gulliver, of the University of Oxford, has undertaken the zoological department, and will form as complete a series as possible of the recent animals of the island of every kind. The fauna of Rodriguez, as is well known, is excessively meagre, but it is very desirable that what little endemic life there is left on it should be investigated and collected at once, as being the relics of a very peculiar phase of life which is now passing away very rapidly.

To Mr. Henry H. Slater, of the University of Cambridge, who has had good experience of cave-digging in the north of England, has been entrusted the task of the complete exploration of the limestone caverns of Rodriguez, which has been so ably commenced by Mr. Edward Newton, the Colonial Secretary of Mauritius, with successful results well known to the majority of our readers. We trust also that Mr. Edward Newton may himself be able to accompany the party to Rodriguez, in order to give them the benefit of his advice and assistance. If this can be arranged, there remains no doubt that the Rodriguez expedition will attain most successful results.

For the expedition to Kerguelen's Land, the second point to which it has been agreed that natural history investigaton shall be directed, one naturalist has been considered to be sufficient, regard being had to the well-known poverty of its flora and fauna, and to the fact that the *Challenger* expedition has paid, or will shortly pay, a visit to the island. For this post the Committee of the Royal Society has selected the Rev. A. E. Eaton, who has already distinguished himself by making excellent collections, both zoological and botanical, in Spitzbergen. Spitzbergen, as observed by Dr. Hooker, lies under somewhat similar conditions as regards climate in the northern hemisphere, to Kerguelen's Land in the southern, and there can be no doubt that a naturalist who has worked well in the former will have gained experience likely to assist him in the latter locality.

As regards the exact time of the departure of these two expeditions, we believe that nothing is yet finally settled; but it is probable that the naturalists will in each case depart in company with the astronomers, who are under orders to leave England in the course of the ensuing month.

NOTES

AT a meeting of Convocation of the University of London held on Tuesday evening last, a motion "That in the opinion of Convocation it is desirable that women should be permitted to take degrees in the University of London," was carried by a majority of 83 against 65. The subject will, it is said, shortly be brought before the Senate, with whom originates all fresh legislation, Convocation having only a power of veto.

AT the same meeting a motion urging the Senate not to permit the practice of vivisection to be carried on in the physiological laboratory of the Brown Institution under any circumstances except for medical or curative purposes, was lost by a majority of 59 against 16.

WE have, on more than one occasion, spoken of the disgraceful way in which the Natural History Collections belonging to the defunct East India Company have been treated. They have been "boxed up" several years and deposited in the cellars of the India Office, so that they cannot be got at even when access to a particular type-specimen is requisite to enable a naturalist to determine a *vexata quæstio*. On the 5th inst. Sir John Lubbock endeavoured to ascertain from the Under-Secretary for India whether there is any prospect of the grievance being remedied, but did not succeed in getting much more than the cautious reply that the subject was "under consideration." We believe, however, that there is really a negociation for the transfer of the whole of the collection to South Kensington, in accordance with the suggestion put forward in our article on this subject in NATURE, vol. vii. p. 457, and are glad to recognise that the present Government show some symptoms of paying attention to the just claims of scientific men.

THE Senate of the University of Cambridge last week conferred a great boon on students of Natural Science who intend going to the University, by deciding to accept the certificate of the Leaving Schools Examination in lieu of the Previous Examination. The student who obtains this certificate, passing the examination with distinction, will be able to enter uninterruptedly upon the pursuits of Natural Science as soon as he goes up to the University, and will therefore be able to attain greater proficiency than has hitherto been the case. The examination is, we believe, likely to be a very thorough one, but the particulars can be obtained through the "Regulations of the Oxford and Cambridge Schools Examination Board," which may be obtained for a shilling at any bookseller's.

TRINITY COLLEGE, Cambridge, offers one or more foundation scholarships of the value of 100*l.* per annum. The examination will be open to all undergraduates of Cambridge who have passed the Previous Examination. Also an exhibition of the value of 50*l.* per annum. This examination to be open to all persons under 20 who have not commenced residence at the University. The examination will commence on March 30, 1875. Candidates must send certificates of age and moral character to one of the Tutors of Trinity before March 13.

THE use of a lecture-room in the New Museums, Cambridge, has been granted to Dr. Carpenter for the purpose of giving a lecture on some of the results of the voyage of the *Challenger*.

THE visit of the *Challenger* to Melbourne has been exceedingly pleasant. Free passes have been granted by the railway companies in the most liberal fashion, and excursions have been the order of the day. Letters will reach the *Challenger* if directed to Sydney, by the mails leaving London *via* Brindisi, May 15, *via* San Francisco, June 3. They will find the ship at Somerset, Cape York, on August 16. Letters to Singapore should be sent *via* Southampton, June 18, and July 16; *via* Brindisi, June 26, and July 24.

THE Council of the Society of Arts has fixed Wednesday, May 20, for a general meeting on the subject of Public Museums and Galleries. To it will be invited the Mayors of Corporations, Chairmen of Art and Science Schools, and others interested in the question. The object of the meeting will be to name a deputation to wait upon the Prime Minister, and urge upon him the importance of bringing all National Museums and Galleries under the authority of a Minister of the Crown, with direct responsibility to Parliament; and also of causing all such museums to be made conducive to the advancement of education and technical instruction. The chair will be taken by the Right Hon. Lord Hampton, at 12 o'clock.

THE annual meeting of the Iron and Steel Institute was held on the 6th, 7th, and 8th inst., under the presidency of Mr. J. Lowthian Bell, M.P. The president's address as well as the papers read were almost entirely of a technical nature. The Bessemer medal founded by Mr. Bessemer since the last meeting of the Institute, was awarded to Mr. Lowthian Bell. According to the Report of the Council, the number of members was 644, showing an increase of 122 since the last annual meeting. In Friday's sitting Mr. G. W. Maynard read a paper On the iron ores of the Lake Champlain region. The author gave a topographical and geographical description of the district, and placed before the meeting a large amount of information respecting the minerals existing throughout the whole of the United States.

WE regret to learn the death of Dr. Meissner, the eminent botanist, which took place on the 2nd inst. at Bâle, in the 64th year of his age, "après de longues souffrances." He was a foreign member of the Linnean Society.

MR. EDWARD BARTLETT has been appointed Curator of the Maidstone Museum, which contains so many objects of interest collected by the late Mr. Julius Brenchley in his numerous and extended travels.

IN reply to a question on Monday in the House of Commons Mr. Disraeli said that the claims of the late Dr. Livingstone' family "will be considered by her Majesty's Government, and, if they think they ought to be provided for, we shall not hesitate to ask the House to grant such a vote as they think would be proper under the circumstances." The ways of "her Majesty's Government" are mysterious. Chumah and Susi, Dr. Livingstone's two faithful servants, are expected to arrive at Southampton in the next homeward-bound Indian mail steamer.

THE Rev. Charles New has just left England for the scene of his former labours in Eastern Africa. After investigating some of the less-known portions of the coast he purposes to press forward into the interior in the direction of the sources of the Nile.

A sharp frost set in in many parts of France on May 4-6, and destroyed a quantity of young plants, especially in vineyards. The occurrence had been predicted by M. Sainte Claire-Deville, who is now in Algeria for the purpose of organising meteorological observations in the remotest French desert stations. The disasters are serious, although they do not endanger the future crops and vintage. Several agricultural papers propose to protect young plants against cold spring nights by covering them with canvas or burning substances which produce much smoke, in order to create artificial clouds over the fields. It remains to be seen with what success such schemes, which appear rather rash, may be followed.

WE have received a few additional letters on the destruction of flowers by birds, which we have forwarded to Mr. Darwin.

AT a meeting of the Alpine Club on the 5th inst., Mr. W. S. Watts spoke of a proposed exploration of the Vatna Jökull, Iceland. An exploration devoted to this purpose would, he observed, possess peculiar interest, since the vast area known as the Vatna Jökull, situated on the south-eastern side of the island, is at present wholly unexplored. Mr. Watts visited Vatna Jökull and spent some time upon it in 1871, in company with his friend Mr. John Milne, F.G.S. So far as they could determine, Vatna Jökull, with its surrounding jökulls, was an aggregation of volcanoes and glaciers, encompassed on all sides by a desert formed by the action of the sea, huge lava streams, and fragmentary ejectments and detritus brought down by the flooded rivers incidental to volcanic eruptions. The object of the proposed expedition is to cross and explore Vatna Jökull, to reach, if possible, the seat of present volcanic activity, and to determine the character and position of any other phenomena it might contain. In order to accomplish this it is essential that his party should not be less than six in number. Three gentlemen have already promised to accompany him, and he hopes that from the club, or others who might hear of his undertaking, he may get four more to join him. He proposes to start on May 31, and remain away about three months, and that should his party consist of eight the expenses would not exceed 50*l.* per man.

A NEW drug from Brazil has appeared in France, under the name of Jaborandi. It consists of the leaves and small branches of a shrub growing in the interior of some of the northern provinces of Brazil, and from specimens which have come into the hands of Prof. Baillon, it seems that the plant is the *Pilo-*

carpus pinnatus Lem., belonging to the Rutaceæ. It is stated that this drug has been used with great success in France, and that it is looked upon "as an incomparable diaphoretic and sialogogue." Dr. Gubler expresses himself in the belief that it "will be the first indisputable example of a diaphoretic truly worthy of the name; that is to say, a medicine having the power of provoking directly by an electric action the secretion of perspiration."

In the same manner as the lichen dyes have been superseded by those derived from coal tar, so the demand for madder roots seems to be rapidly falling off, owing to the discovery of alazarine. In a report on the trade of Beyrout, it is stated that heavy losses have been incurred in the article, owing to its great fall in value in the English markets from the cause above stated; indeed it is said that so far as England is concerned, the trade in this article with Beyrout has almost, if not quite, ceased. Its cultivation, however, in this neighbourhood, has never been on a very extensive scale, being confined to a few outlying districts; it is, moreover, very exhaustive to the soil. Nevertheless, in the early part of the year 1872, 2,300 cwt. of the value of 5,728*l.* were shipped from Beyrout to English ports.

We have just received the publications of the "Bataviaasch genootschap van Kunsten en Watenschappen" for 1873. In the "Tijdschrift" is a short paper on Rotti, by Mr. Jackstein, a missionary in the island, followed by another paper by him on the Rotti words in use by the Malay-speaking people in the district of Koepang. Several papers are devoted to the accounts of the suppression of piracy, which has so long been a characteristic of the Malay race. Dr. Adolf Meijer has also communicated a paper On the Language spoken in Mendanoa, Solog, &c.

Prof. William M. Gabb, of Philadelphia, who is at present engaged in an exhaustive geological exploration of Costa Rica, has lately made a very important discovery in reference to the sedimentary rock on the Atlantic slope of Costa Rica, namely, that even such portions as are auriferous are not earlier than the Tertiary. Indeed, in Prof. Gabb's opinion, they are of Miocene age, which is, of course, strongly in contradiction of the hypothesis of Sir Roderick Murchison, that gold is of Silurian origin.

The last part of the Transactions issued by the Geological Society of Manchester contains a paper by Mr. S. Aitken, On the Discovery of the new Fish of the Genus *Acrolepis* Ag. in the millstone grit near Habden Bridge, Yorkshire. There is also a paper On the Economic Value of Heat Fuels, by Mr. Plant.

A curious phenomenon happened at Belfast recently while some men were sinking a well. A light having been let fall, a flash overspread the bottom of the well; and a pipe about 60 ft. long having been conveyed from the bottom of the well to the second storey of a building, the gas was ignited, and continued burning all day. The strata passed through in digging the well were esturine, clay, gravel, boulder clay, and New Red sandstone. The gas has been proved to be marsh gas (carburetted hydrogen) probably generated in the decomposed vegetable matter, which abounds in the lower stratum of the esturine clay, in which were also vast numbers of fossil shells.

One of the most elaborate mineralogical papers that has appeared for some time in the United States, with the exception of Dr. Genth's on corundum, is that by Prof. Josiah P. Cooke, jun., upon the vermiculites, and their crystallographic and chemical relations to the micas, together with a consideration of the variation of the optical angle in these minerals. This appears in the Proceedings of the American Academy of Arts and Sciences, and is to be considered as a very valuable contribution to the science of mineralogy.

We have received a very interesting map of Victoria showing the distribution of forest trees in that colony by an ingenious arrangement of different colours. It is compiled by Mr. Arthur Everett from the Record Maps in the Office of the Surveyor-General, under the direction of Mr. R. Brough Smith. The map is accompanied by notes on the various trees by Dr. F. von Mueller, Government Botanist.

A Madeira correspondent writes us concerning the damage caused to objects of natural history from cedar-wood cases. A naturalist in Madeira, to do his collection of the remarkable land shells of the island more honour, had made for them a case of this wood. Unobserved for a month, the shells were found drenched with the turpentiny resin exhaling from the wood. Shells covered with a rough epidermis seemed to have attracted the oil less. *Craspedopoma*, and the smooth fresh-water shells had specially suffered; semi-fossils full of sand had escaped; all others, whether recent or semi-fossil, had suffered to such an extent that the cardboard to which they were attached was in many cases soaked. This occurred, however, only when the affixed shells offered the needful point of attraction and condensation.

We have received an appendix to the Annual Report for 1873 upon the Survey of the (U.S.) Northern and North-western Lakes in charge of Major C. B. Comstock. Notwithstanding much unfavourable weather, a great deal of work has been done. It was expected that a continuous chain of triangulation, reaching from St. Ignace Island, on the north shore of Lake Superior to the southern end of Lake Michigan, a distance of 500 miles, would be completed during 1873. It has been measured with sufficient precision to give an arc of the meridian 7° in length. This is the longest arc measured on the American continent, and it is hoped to extend it further south.

The additions to the Zoological Society's Gardens during the last week include a Capybara (*Hyrochœrus capybara*) and a Coypu (*Myopotamus coypus*) from S. America, presented by Dr. H. Young; a Garnett's Galago (*Galago garnetti*) from E. Africa, presented by Mr. R. H. Cusack; an African Civet Cat (*Viverra civetta*) from the Gold Coast, presented by Mr. W. B. Ramsay; a Grey Ichneumon (*Herpestes griseus*) from India, presented by Mr. H. Humphry; a Sun Bittern (*Eurypyga helias*) and seven Upland Geese (*Chloëphaga magellanica*) hatched in the gardens; a Black Saki (*Pithecia satanas*) and a Red-backed Saki (*P. chiropotes*) from S. America, deposited; a Blue-faced Green Amazon (*Chrysotis bouqueti*) from Honduras, purchased. Of this last-named bird Dr. Finsch, in his monograph on the parrots, remarks that he has never been able to find a skin in any of the many museums to which he has had access.

SCIENTIFIC SERIALS

The *Journal of the Chemical Society* for March contains the following papers read before the Society:—On the preparation of standard trial plates to be used in verifying the composition of coinage, by W. Chandler Roberts, chemist of the Mint. The author had been instructed by the Lords of the Treasury to prepare new plates of gold and silver for comparing annually with the coinage being issued, in order to guarantee the fineness of the latter. The gold plate consists of an alloy of copper and gold ranging in composition in its different parts from 916·5 to 916·7 parts of fine gold in 1,000 (the standard is 916·66). This plate did not present much difficulty in its preparation, since the two metals were obtained in a state of perfectly homogeneous mixture after repeated meltings. The silver plate presented much greater difficulty owing to the tendency of the silver to concentrate itself in the centre of the mass. The difficulty was overcome by casting the alloy into a plate, which was then planed down on both surfaces and afterwards greatly extended by roll-